

Application No. 09/548,140

REMARKS

Claims 1-7 are pending. By this Amendment, claims 1 and 7 are amended, and no claims are canceled or added.

Claim Rejections – 35 U.S.C. § 103

Claims 1, 2, and 4-7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,531,044 (hereinafter “Chang”) in view of U.S. Patent No. 4,284,437 (hereinafter “Baba”). Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Chang in view of Baba and further in view of U.S. Patent No. 6,033,787 (hereinafter “Nagase”).

Claim 1 has been amended to recite a metal-ceramic circuit board, wherein one surface of the ceramic substrate board is bonded directly to the base plate without any intervening material, in combination with the other elements recited in the claim. Similarly, claim 7 has been amended to recite a power module, wherein one surface of the ceramic substrate board is bonded directly to the base plate without any intervening material, in combination with the other elements recited in the claim. Support for the amendments to claims 1 and 7 can be found throughout the present application as filed. For example, at page 4, lines 5-12, the present application as filed provides that the ceramic substrate board is bonded with the base plate of aluminum or aluminum alloy “in such a manner that the aluminum or aluminum alloy is molten in a mold and cool[ed] . . . by contacting with the ceramics.” Refer also to page 21, lines 14-21, and page 22, lines 9-25.

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Insofar as the aforementioned rejections apply to the amended claims, the rejections are respectfully traversed.

Neither Chang nor Baba teach or suggest the metal-ceramic circuit board of amended claim 1 or the power module of amended claim 7. Referring to FIG. 3, Chang discloses that the "ceramics [15] are *glued* to a supporting aluminum plate 16 which acts as a heat sink." (Emphasis added.) The Office Action mailed March 2, 2005, also acknowledges the gluing taught by Chang on page 5. Chang therefore does not disclose direct bonding without any intervening material, as is recited in part in each claim 1 and claim 7.

Baba discloses a process for preparing a hard tempered aluminum alloy sheet. Although not cited with respect to either claim 1 or claim 7, Nagase teaches a ceramic circuit board with heat sink in which first and second aluminum plates are laminated and bonded onto both sides of a ceramic substrate through Al-Si-based brazing solders (Abstract). Both Baba and Nagase are also silent as to direct bonding without any intervening material, as is recited in both claim 1 and claim 7 in combination with the other elements of each claim, respectively.

Therefore, claims 1 and 7 are now allowable at least for the reason set forth above. Claims 2-6 depend from claim 1 and are therefore also allowable at least for the reasons above with respect to claim 1. The various rejections of claims 2-6 are traversed but not expressly argued in light of the allowability of the underlying base claim.

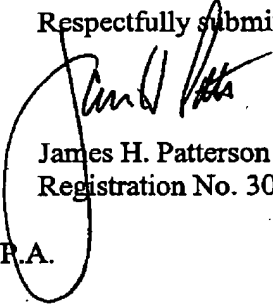
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Conclusion

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,


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